

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

No Documented Observed Release  
(Ref.1: 47FR 31224)

Rationale for attributing the contaminants to the facility:

- NA

\* \* \*

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Generally, in the Chicago area a shallow sand and gravel glacial drift aquifer exists and is interconnected to the shallow dolomite aquifer beneath it (Ref.3: p. 73). These aquifers are separated from a deeper aquifer by Maquoketa Shale. (continued on attached sheet)

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

The aquifer of concern (Cambrian-Crdovician) extends down to ~ 1840 feet near the site.  
(Ref.2:p.1) The depth to the water table of this aquifer is > 500-540 (Ref.4:p. 1, 2).

Depth from the ground surface to the lowest point of waste disposal/storage:



### Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

$$\frac{36'' - 32''}{3.0 \text{ cm} - 0 \text{ cm}} = \frac{36'' - X}{3.0 \text{ cm} - 1.9 \text{ cm}} \quad X = 33.20''$$

(Ref. 5: p. 43)

Mean annual lake or seasonal evaporation (list months for seasonal):

$$\frac{30'' - 28''}{1.1 \text{ cm} - 0 \text{ cm}} = \frac{30'' - X}{1.1 \text{ cm} - .8 \text{ cm}} \quad X = 29.45''$$

(Ref. 5: p. 43)

Net precipitation (subtract the above figures):

$$33.20'' - 29.45'' = 3.75''$$

Assigned Value = 1

(Ref. 1: 47FR 31224)

### Permeability of Unsaturated Zone

Soil type in unsaturated zone: Maguoketa Shale Separates the shallow glacial drift/ Silurian- dolomite limestone aquifer from the deeper Cambrian- Ordovician aquifer of concern (Ref. 3: P. 73 and Ref. 2: p. 1). 145 feet cf Maguoketa Shale exists in the area of the site Permeability associated with soil type:

Maguoketa Shale:  $< 10^{-7}$  cm/sec (Ref. 2: p. 1)

Assigned Value = 0

(Ref. 1: 47FR 31224)

### Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

\* \* \*

## Depth to Aquifer of Concern

### Description of Aquifer of Concern (continued)

The deeper aquifer consists of the Cambrian-Ordovician formations which are made up of the Ironton-Galesville and Glenwood-St. Peter Sandstones. The Cambrian- Ordovician aquifer is separated from the deeper Mt. Simon aquifer by shale and silt beds contained in the Eau Claire Formation (Ref. 3: p. 73).

Area boring logs show the interconnected sand and silty clay/silurian dolomite bedrock aquifer extending down to at least 355- 382 feet below the ground surface (Ref. 2: p. 1+2). Maguoketa shale then extends from below the Silurian dolomite to ~ 500 feet below the ground surface. (Ref. 2: p. 1). The aquifer of concern consists of the Cambrian- Ordovician formations which begin at 820 feet (below ground surface) and extend to ~ 1,840 feet (below ground surface) in the area of the site. The Mt. Simon aquifer begins at ~ 1,840 + feet below the ground surface in the general vicinity surrounding the site (Ref. 2: p. 1).

## HRS DOCUMENTATION LOG SHEET

SITE NAME TARACORP INDUSTRIES  
 CITY MC COOK STATE IL  
 IDENTIFICATION NUMBER 11-D098 98 3208

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
# 1	Federal Register, July 16, 1982
# 2	Well Log / Summary Sample Studies; Illinois Geological and Water Surveys, 41 pages.
# 3	Summary of the Geology of the Chicago Area, H.B. Willman, 1971, Circular 460 / Illinois State Geological Survey, 79 pages.
# 4	Phone log, To Frank Novotny - Novothi, Engineering From Cynthia Pugh - Environmental Scientist (FIT) - Ecology + Environment Inc 8-12-86, 10:40 AM (312) 887-8640, 2 pages
# 5	Climatic Atlas of the United States, US Department of Commerce, 1968, reprinted 1979, 80 pages
# 6	Memorandum, To file, from Cynthia Pugh - Environmental Scientist (FIT). Lyons Municipal Water Supply, 8-6-86, 2 pages
# 7	Lyons WATER Distribution Map (OVERSIZED) - Available in E+E files, SOURCE; Village of Lyons water dept obtained 8-6-86, 1 page
# 8	Phone log, To Mr. Couch - Public Works Superintendent - Lyons From Cynthia Pugh - Environmental Scientist (FIT) Ecology + Environment Inc. 10-23-85, 10:10 AM (312) 447-8886, 1 page

## HRS DOCUMENTATION LOG SHEET

SITE NAME TAPACOEP Industries  
 CITY McCook STATE IL  
 IDENTIFICATION NUMBER ILD098983208

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
#9	Phone log, To Sue Pfau - Village of Lyons. From Ruth Ann Jacquette - Environmental Scientist (FIT) Ecology + Environment Inc. 12/12/86, 11:11 AM (312) 447-8886, 1 pages.
#10	USGS Topographic Maps, Quadrangles; Beechwood 1963; PR 1972,
#11	TEPA Public WATER Supply Information, 195 pages.
#12	Phone log, To Neal VAN DYKE - Water Superintendent of RIVERSIDE, From Cynthia Pugh - Environmental Scientist (FIT) Ecology + Environment Inc. 3-24-86 2:20 pm (312) 447-2700, 1 pages.
#13	Phone log, To Terry Guzlas - Summit Water Dept Secretary to Water Superintendent. From Cynthia Pugh - Environmental Scientist (FIT) Ecology + Environment Inc. 3-24-86, 10:25 AM (312) 563-4200 1 page.
#14	Phone log, To Bernard Katz, City of Chicago WATER Department. From Cynthia Pugh - Environmental Scientist (FIT) Ecology + Environment Inc. 8-13-86, 9:20 AM (312) 744-7001, 1 page.
#15	Phone log, To Jerry Larsen - Chief Filtration Engineer Chgo Water Department. From Ruth ANN Jacquette

# HRS DOCUMENTATION LOG SHEET

SITE NAME TADACOOP Industries  
CITY Mr. COOK STATE I.  
IDENTIFICATION NUMBER IL D098983208

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
#15(cont)	Environmental Scientist (FIT). Ecology + Environment Inc. 12/23/85, 3:00 pm (312) 744-3696, 1 page.
#16	Phone Log, To Peter Yuretich - Fire Chief - McCook Fire
	Dept., From Cynthia Pugh - Environmental Scientist (FIT)
	Ecology and Environment, Inc., 1-8-87, 1:55 pm, (312)
	447-1234
#17	Phone Log, To Ed Brezinski - IL State Fire Marshall's
	Office, From Cynthia Pugh - Environmental Scientist -
	(FIT), Ecology and Environment, Inc., 1-8-87, 3:09 pm,
	(312) 917-2693
#18	

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking Water: no municipal water from alternate unthreatened sources presently available (Ref. 6 : p. 1,2) Assigned Value = 3

Distance to Nearest Well

(Ref.1: 47FR 31230)

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Lyons Municipal well (Ref. 7; Ref. 8)

T. 38N, R. 12E, Section 1

NE corner Joliet Avenue & Collins Rd., Lyons

Distance to above well or building:

.85 miles (Ref. 10)

Assigned Value = 3

(Ref.1: 47FR 31231)

Population Served by Ground Water Wells Within a 3-Mile Radius

See Attached Sheet

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Lyons water supply consists of 50% surface water from the city of Chicago water supply and 50% ground water from the municipal well in Lyons. Surface water and ground water is mixed in their distribution system. (Ref. 6 : p.1)

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

Areas within the 3-mile radius are highly populated and industrialized - no farmland is present (Ref. 10)

Total population served by ground water within a 3-mile radius:

9,900 - 9,925

Assigned Value = 4

(Ref.1: 47FR 31233)

Matrix Value = 32